

**CHEM 1013: General Chemistry 1**

September 5, 2018

Lectures			Location
Section 1013A1:	Dr. Matt Lukeman	M/W/F: 8:30am – 9:30am	ELL 207
Section 1013B1:	Dr. John Murimboh	M/W/F: 9:30am – 10:30am	BAC 142
Section 1013C1:	Cathy Murimboh	M/W/F: 10:30am – 11:30am	BAC 236
Section 1013D1:	Dr. Bobby Ellis	M/W/F: 11:30am – 12:30pm	ELL 207

Office Hours	Instructor	Email	Location
M: 1:00 – 4:00 pm	Dr. Matt Lukeman	<a href="mailto:matthew.lukeman@acadiau.ca">matthew.lukeman@acadiau.ca</a>	ELL 114
T: 1:00 – 4:00 pm	Dr. Bobby Ellis	<a href="mailto:bobby.ellis@acadiau.ca">bobby.ellis@acadiau.ca</a>	ELL 115
W: 1:00 – 4:00 pm	Cathy Murimboh	<a href="mailto:catherine.murimboh@acadiau.ca">catherine.murimboh@acadiau.ca</a>	ELL 117
Th: 1:00 – 4:00 pm	Dr. John Murimboh	<a href="mailto:john.murimboh@acadiau.ca">john.murimboh@acadiau.ca</a>	KCIC LL34
Labs	Dr. Elizabeth Gillis	<a href="mailto:elizabeth.gillis@acadiau.ca">elizabeth.gillis@acadiau.ca</a>	ELL 211

Restrictions	
<b>Pre-requisite</b>	Nova Scotia grade 12 chemistry or equivalent with 60% or better

Textbook
Chemistry: A Molecular Approach (2nd Canadian Edition) plus MasteringChemistry with eText Tro, Nivaldo J., Travis Fridgen, and Lawton Shaw Pearson Canada, 2017 ISBN: 9780134145068 (hardcover with MasteringChemistry and eText) ISBN: 9780134642710 (loose-leaf with MasteringChemistry and eText) ISBN: 9780134194530 (MasteringChemistry with eText only)
Alternate Textbooks
1. Principles of General Chemistry v1.0 (Averill and Eldredge) [ <a href="#">HTML</a> ] 2. Chemistry Virtual Textbook (Stephen Lower, Simon Fraser University) [ <a href="#">HTML</a> ] 3. Any first-year chemistry textbook

**LEARNING, TEACHING, AND ASSESSMENT INFORMATION**

Assessment		
Labs	20%	
Assignments	10%	Best 10 Assignments
Midterm 1	10%	Thursday, September 20, 2018
Midterm 2	10%	Thursday, October 18, 2018
Midterm 3	10%	Thursday, November 8, 2018
Final Exam	40%	
<b>Total</b>	<b>100%</b>	
Students with a valid excuse (e.g. illness) must contact their instructor at least one hour prior to the start of the midterm to be excused. The weight of the midterm will be transferred to the final exam. <b>Students who miss all three midterms, regardless of the reason, will receive a failing grade in the course.</b>		

Labs
<p>Lab Instructor: Dr. Elizabeth Gillis, <a href="mailto:elizabeth.gillis@acadiau.ca">elizabeth.gillis@acadiau.ca</a>, ELL 211  Monday-Friday: 1:30-4:30 pm (ELL 204, 206)  Prelab (ELL 207)</p> <p><b>Attendance is required for all scheduled laboratories.</b> This includes all laboratory activities, including pre-lab meetings. Absences during laboratory time will be categorized as either 'excused' or 'unexcused'. Unexcused absences will result in a grade of zero for that laboratory session. A student who is absent for three (3) labs, with any combination of excused and/or unexcused absences per course, will receive a failing laboratory grade. The laboratory is an integral part of the course. <b>You must earn a passing grade in the laboratory to pass the course.</b></p> <p>The penalty for late lab reports is a deduction of 10% to a maximum of 4 days.</p> <p>See the lab ACORN page (CHEM 1010L A1-E1 CHEM 1013 LABORATORY [2018-19]) for more details.</p> <p><b>Lab Manual, Glasses, and Gloves:</b> Purchase from the Chemistry Club (Elliott Hall Lobby) September 6-15<sup>th</sup>, 12:30-1:30 pm. Available for purchase from Dr. Ellis (ELL 115) afterwards.</p> <p><b>Lab Coats and Notebooks:</b> Available at the Acadia University Bookstore.</p>
Assignments
<p>Due: Thursdays at 11:30pm (NO EXCEPTIONS)</p> <p><b>Late assignments automatically receive a grade of zero. There are no exceptions, including illness or power failures. i.e. Do not wait until the last minute to work on the assignments!</b></p> <p><b>Option 1 (FREE)</b> via ACORN</p> <p><b>Option 2 (requires access code)</b> MasteringChemistry  <a href="https://www.pearsonmylabandmastering.com/northamerica/">https://www.pearsonmylabandmastering.com/northamerica/</a>  <b>Course ID: murimboh90553</b></p>
Course Description
<p>An introductory treatment of the fundamentals of chemistry: atoms, molecules, ions, chemical equations, stoichiometry, enthalpy, electronic structure and periodic properties of the elements, chemical bonding, and molecular structure, acids and bases, and gases.</p> <p>Assessment will be by examination and submission of laboratory reports.</p>
Topics
<p>Unit 1: Fundamentals (Review)  Unit 2: Atomic Structure and Properties  Unit 3: Molecular Orbital Theory  Unit 4: Valence Bond Theory  Unit 5: Acids and Bases  Unit 6: Salts, Buffers, and Titrations  Unit 7: Gases</p>

Learning Outcomes	
<b>Knowledge and understanding</b>	<ol style="list-style-type: none"> <li>1. Proper use of significant figures</li> <li>2. Unit analysis</li> <li>3. Convert between mass, moles, # chemical entities</li> <li>4. Balance chemical reactions</li> <li>5. Name compounds, write chemical formulae</li> <li>6. Calculate empirical and molecular formulae</li> <li>7. Percent yield and enthalpy calculations</li> <li>8. Describe the Bohr model of the atom</li> <li>9. Energy, wavelength, frequency calculations</li> <li>10. Understand quantum numbers and atomic orbitals</li> <li>11. Understand wave-particle duality and use the de Broglie equation</li> <li>12. Write electron configurations</li> <li>13. Describe periodic trends</li> <li>14. Understand and apply MO theory to diatomic molecules</li> <li>15. Use electronegativity to predict bond polarity and classification of diatomics</li> <li>16. Draw Lewis structures</li> <li>17. Use VSEPR theory to predict the shape and properties of molecules</li> <li>18. Understand hybridization of atomic orbitals</li> <li>19. Calculate the pH of strong acids and bases</li> <li>20. Equilibrium calculations of weak acids and bases</li> <li>21. Equilibrium calculations of salts, buffers, and titrations</li> <li>22. Understand empirical gas laws and use the general gas equation</li> <li>23. Ideal Gas equation calculations</li> <li>24. Dalton's Law calculations</li> </ol>

## **OTHER DETAILS**

Accessible Learning Services
<p>If you have a documented disability and require support or accommodations, please contact Dr. Abu Kamara, Coordinator, Accessible Learning Services at 902-585-1291, <a href="mailto:abu.kamara@acadiau.ca">abu.kamara@acadiau.ca</a> or Marissa McIsaac, Accessibility Coordinator at 902-585-1520, <a href="mailto:disability.access@acadiau.ca">disability.access@acadiau.ca</a>. Accessible Learning Services is located in Rhodes Hall.</p>
Academic Integrity
<p>It is your responsibility to acquaint yourself with the university policy on academic integrity. Academic dishonesty such as cheating and plagiarism are not tolerated. Any form of academic dishonesty in examinations, tests, labs, or assignments is subject to serious academic penalty. The full description of the penalties associated with academic dishonesty is outlined in the 2018/2019 Academic Calendar.</p> <ul style="list-style-type: none"> <li>• Cheating is copying or the use of unauthorized aids or the intentional falsification or invention of information in any academic exercise</li> <li>• Plagiarism is the act of presenting the ideas or words of another as one's own. Students are required to acknowledge and document the sources of ideas that they use in their written work.</li> <li>• Self-plagiarism is also a form of plagiarism. It is the presentation of the same work in more than one course without the permission of the instructors involved.</li> <li>• A student who knowingly helps another to commit an act of academic dishonesty is equally guilty.</li> <li>• Penalties are levied in relation to the degree of the relevant infraction. They range from failure on that piece of work, to failure in the course, to dismissal from the university.</li> </ul>